



- Multi-Device
- Cloud based
- Scalable
- IOT Protocol
- Encrypted
- Integration Services
- IP67



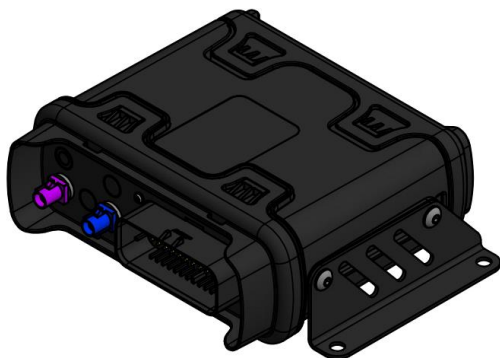
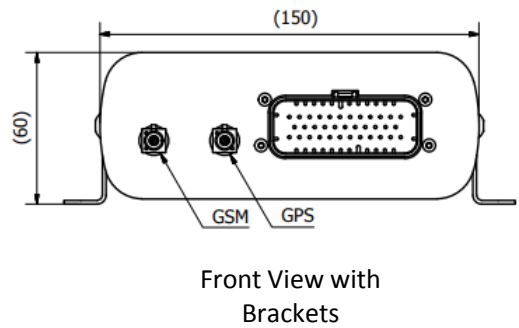
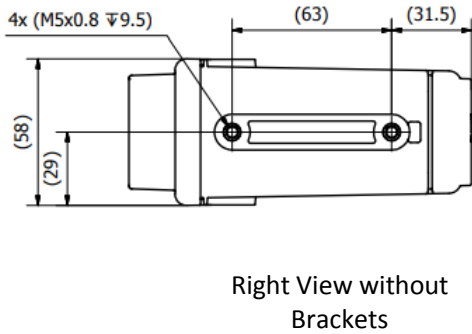
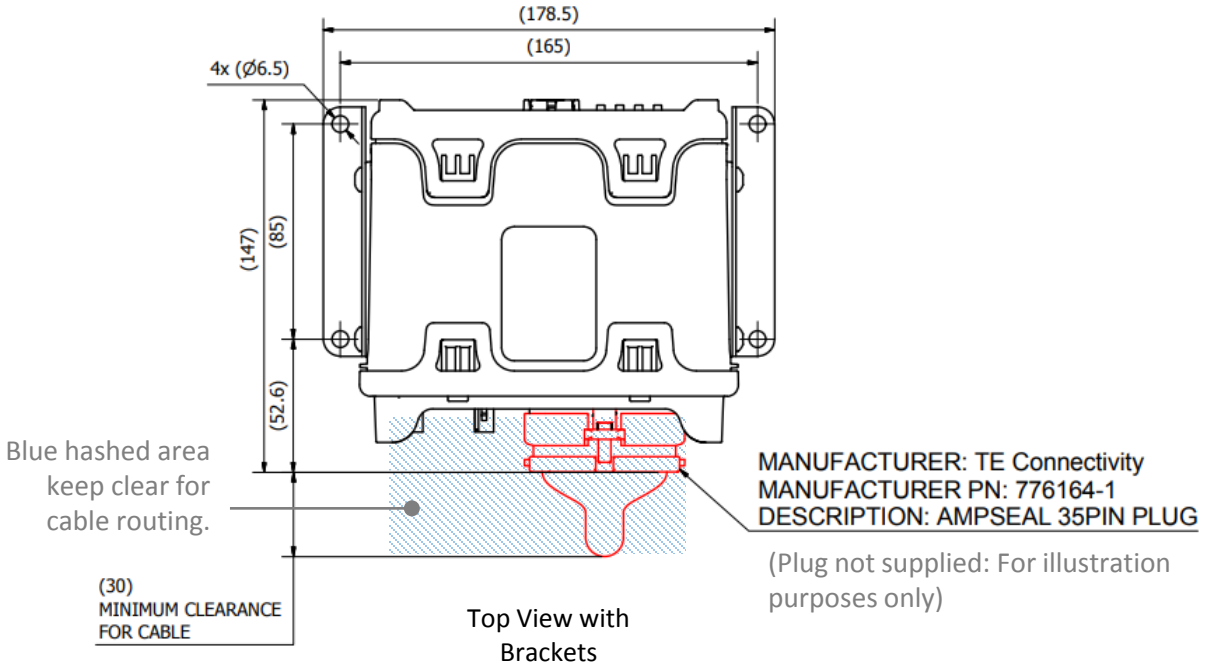
Edge 1.0 is a rugged, on-board unit that provides the hardware and software necessary to connect a vehicle, machine or component to the VPVision cloud platform. Multiple inputs and outputs in combination with a full integration service enable the hardware to deliver maximum flexibility. With an IP67 enclosure, the industrial grade protection ensures it can be deployed in harsh environments including engine bays.

Cutting-edge architecture and a robust set of configurable software modules mean the functionality can be modified and rapidly integrated into new applications. This unit is well suited for data processing and condition monitoring of mobile or static applications. The large memory and processing power ensure Edge 1.0 can leverage the latest software advances such as machine learning to perform fault prognostics.

## Hardware Technical Data

Processor System	
Computational Unit	ARM Cortex A8, 32 bit, 800 MHz
Nonvolatile memory	1 GB NAND Flash, expandable with 32 GB on SD card
Volatile memory	512 MB RAM DDR3
Power Supply	
Input Range	7-48 V
Option	Integrated rechargeable li-ion battery: 2.6 Ah
Power requirement	63 mA Run, 14 mA Standby, 0.2 mA Off Mode @ 24 V
Environmental Specifications and Conformity	
Temperature Range	-40 to + 85 °C
Ingress Protection	IP67
Conformity	CE, E, R & TTE, ROHS Directive
Interfaces and Serial Communications	
CAN	4x CAN supporting CAN2.0B, up to 1 Mbit/s
K-line Bus	2x
RS232	3x
RS485	1x
Ethernet	1x Ethernet up to 1,000 Mbps
GPS	1x GPS, GNSS
IMU	9-Axis Accelerometer
Remote Connectivity	GSM/GPRS & UMTS/HSPA & LTE
WiFi	802.11 b/g/n
Bluetooth	Bluetooth 4.2
USB	1x USB Host 2.0
Inputs and Outputs	
Digital I/O	10x configurable inputs/outputs, 50V max inputs (logic low <1.5V, high >3V)
Analogue Inputs	4x 10 bit resolution, 1% accuracy, 0-5V or 0-30V range
Operating System and Development Environment	
Operating System	Debian 8 Linux
Programmable	C/C++, Shell scripting, Java and Lua

# Dimensions

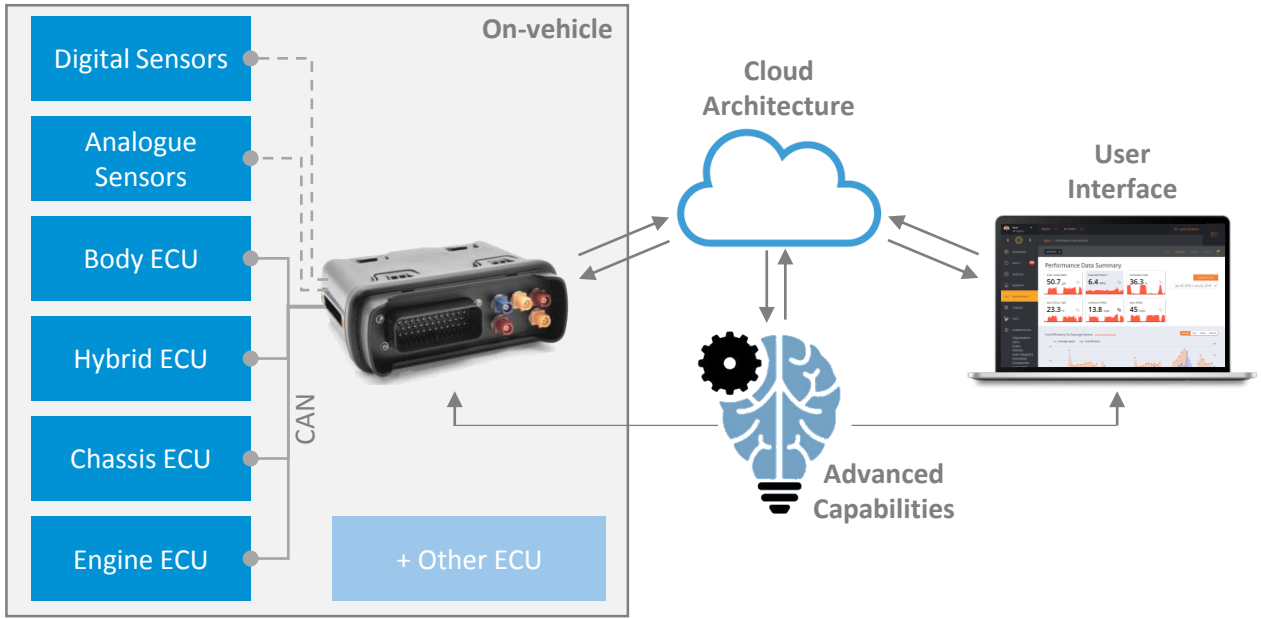


### Notes:

- Unless otherwise stated, all dimensions are in millimetres.
- General M/C Tolerance.
- Mass: 700g (approx.)
- Brackets for mounting on to flat surface supplied - Not suitable for a non-flat surface.

# Integration and Software

The large number and variety of inputs mean Edge 1.0 is highly configurable. A typical integration is via a serial interface to the vehicle or equipment being connected, using one or multiple CAN buses to capture relevant data. This can be supplemented or replaced by multiple inputs from other sources as detailed on the hardware technical data page.



## Software

Software required to connect the vehicle or equipment to VPVision is pre-loaded on the hardware. Data channels can be translated using a configurable API and used in conjunction with the core software modules listed below.

		Configurable API	
<b>Calculations</b> – Perform calculations and analysis on device	<b>IoT</b> – Protocols required to utilise IoT communication with the cloud	<b>Analogue / Digital Inputs</b> – Smooths spikes, removes noise, customisable	<b>CAN Signal</b> – Translates CAN data in to values
<b>Private Connection</b> – Direct connection for development phase debugging	<b>State Machine</b> – Configurable software flow at different states.	<b>Geo-fencing</b> – Geo-fenced zones to influence behaviour and reporting	<b>Live Streaming</b> – Configure streaming rate, variables and fault codes
<b>OTA Update</b> – Remote software updates on demand / schedule based	<b>Batched Log Data Synchronisation</b> – Configure, generate, buffer, compress and synchronise log data with the cloud	<b>Edge Computing</b> – Delegate compute functions from the cloud to operate on device	<b>High frequency Logs</b> – Ring-buffer faults with high frequency logs for a more detailed analysis



Edge 1.0

